

REMARKS/ARGUMENTS

Claim Rejections under 35 USC § 103

1. Claims 1-2, 6-11 and 17 stand rejected under 35 U.S.C. 103(a) as allegedly obvious in view of the teachings of Towle et al. (The spatial location EEG electrodes: locating the best fitting sphere relative to cortical anatomy), Joundet (US Pat. No. 5,038,285), Fox (US Pat. Pub. No. 2003/0050527) and Tucker (US Pat. No. 5,291,888). Applicant respectfully traverses the rejection.

As previously noted during prosecution of the instant application (See Applicant's paper of May 3, 2010), and as admitted by the Examiner, Towle et al. fails to describe that the step for projecting the positions on the head surface onto the positions as the brain surface is carved out by a "minimum distance search" method or by a "head surface/brain interior reference dotted line segment connecting method" as recited in claims 1 and 11.

Additionally, contrary to the assertions contained in the Office Action, Joundet does not describe the "minimum distance search" method. Again, as set forth in Applicant's paper of May 3, 2010, Joundet describes a method for deriving a planar representation of a three-dimensional surface which includes the steps of: deriving a plurality of tomographic slices of the three-dimensional surface; positioning reference points about a perimeter surface of each tomographic slide; creating a straight line representation of each perimeter surface with its reference points, each straight line representation having a length value proportional to the perimeter surface from which it was created; adjusting the straight line representations to be adjacent to each other in the order of their respective tomographic slices, to thereby create a planar map of the three-dimensional surface when the straight line representations are plotted; and reducing distortion between straight line representations by finding the average minimum distance between positionally closest reference points on adjacent slice surface lines; and repositioning the straight line representations in accordance with the findings. Joundet's method is directed to creating a planar map of a 3-D surface where the straight line representations are plotted and finding the "average minimum distance" between positionally closest reference points on adjacent slice surface lines - Joundet does not describe or suggest the minimum distance search method used "to obtain a minimum distance

between the head surface and the brain surface expressed as a straight line,” as disclosed in the instant application and claims.

With regard to Fox, while the Office Action asserts that Fox teaches the use of a convex hull fitting technique for determining a minimum distance from a head surface, Fox does not teach using a minimum distance search method to obtain a minimum distance between the head surface and the brain surface. In this regard, paragraph [0114] of Fox describes that, “[t]o support safe movement of the coil about the head, 3-D models of the head and TMS coil surfaces may be defined ... a mask defining the full 3D volume of the subjects head can be obtained. Using 3-D morphological dilation, a second volume that is guaranteed to be a minimum distance from the head surface can be created ... the dilated head volume may be used to model a volume with a realistic safety margin for use in collision avoidance control when moving from point to point about the head.” Hence, Fox does not describe or suggest the minimum distance search method used “to obtain a minimum distance between the head surface and the brain surface expressed as a straight line,” as disclosed in the instant application.

With regard to Tucker and the assertions contained in the Office Action that, “Tucker has the capability of obtaining a minimum distance between head surface and brain surface expressed as a straight line [see Col. 5, lines 30-60],” Applicant respectfully submits that Tucker is directed to a method for positioning measurement sensors on the human head in which the surface of the head is partitioned into geodesic triangles by elastic lines connecting the sensors in a mutually-balanced tension network. The number of regularly-spaced sensor positions is selected by varying the number of geodesic partitions of the basic triangles of the icosahedrons (10) or dodecahedron that form the initial solid polygonal partitioning of a sphere. The hemispherical structure of the network may be anchored at the perimeter by a headband (11). As the network is applied to a person's head, its balanced tension lines systematically conform its geodesic structure and thus the sensor positions, to achieve an even surface distribution of the sensors for that person's unique head geometry. Hence, Tucker does not describe or suggest obtaining a minimum distance between the head surface and the brain surface expressed as a straight line.

Additionally, with regard to the assertion that the device of Tucker has some type of *capability* to “[obtain] a minimum distance between head surface and brain surface as expressed by

a straight line,” Applicant respectfully submits that such assertion of alleged inherent *capability* of the device of Tucker is without basis and is wholly unsupported by the record or evidence. Accordingly, the Office is respectfully reminded that, “[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). “The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). “To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). See MPEP 2112 (IV).

In view of the above, Applicant respectfully submits that upon considering the references as a whole for what they fairly teach and suggest to an ordinarily skilled artisan, the combination of the references fails teach each and every feature of independent claims 1 and 11 as required to support a rejection under 35 USC §103. In sum, none of the reference, alone or in combination, describe or suggest Applicant’s “minimum distance search” method as set forth in independent claims 1 and 11.

The rejection of claims 1 and 11, and those claims depending therefrom, should be withdrawn.

2. Claims 12-16 stand rejected under 35 U.S.C. 103(a) allegedly obvious in view of Towle et al (The spatial location EEG electrodes: locating the best fitting sphere relative to cortical anatomy), Joundet (US Pat. No. 5,038,285) Fox (US Pat. Pub. No. 2003/0050527), Tucker (US Pat. No. 5,291,888), and Yamashita (US Pat. No. to 6,611,698).

Applicant has previously discussed the teachings of Towle, Joundet, Fox and Tucker and respectfully submits that Yamashita fails to further describe or suggest the deficiencies of Towle, Joundet, Fox and Tucker as they relate to claim 11, from which claims 12 – 16 depend. That is, Yamashita describes a light measuring instrument that is applied to a test object, for example, the skin of the head, and light is reflected inside the test object thereby to detect the light passing through said test object and to image the cerebral interior [see column 5, lines 60-67 and column 6, lines 1-35]. Yamashita does not describe or suggest the “minimum distance search” method as set forth in claim 11. Accordingly, by virtue of their dependency from nonobvious claim 11, Applicant respectfully submits that claims 12 – 16 are also nonobvious.

Withdrawal of the rejection is respectfully requested.

Conclusion

Applicant respectfully submits that the present application is in condition for allowance, which action is courteously requested. The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1105.

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Customer No.: 21874

Respectfully submitted,

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